

# Judson W. Harvey

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## RESEARCH INTERESTS

Hydrologic transport and biogeochemistry in surface water and ground water of wetland and riverine systems.

National Academy of Science, Water Science and Technology Board, Committee on Hydrologic Science, Invited Workshop participant, 'Towards Integration of Hydrological and Ecological Sciences'. October 26-27, 2000.

## EDUCATION

Ph.D. 1990, Environmental Sciences (Hydrology),  
University of Virginia.  
M.S. 1986, Environmental Sciences (Hydrology),  
University of Virginia.  
B.A. 1979, Biology, New College.

National Center for Environmental Analysis and Synthesis (NSF sponsored center at UCSB, Santa Barbara), Committee on Merging Aquatic and Terrestrial Perspectives of Biogeochemistry, July 1999 – October 2000.

National Academy of Science, Water Science and Technology Board, Committee on Riparian Zones, October 1999 – March 2002.

## PROFESSIONAL EXPERIENCE

1998-present: Project Chief, 'Hydrologic and Chemical Interactions between Surface Water and Ground Water, USGS, Reston, VA.  
1995-1998: Research Hydrologist, USGS, Reston, VA.  
1992- 1995: Research Hydrologist, USGS, Menlo Park, CA.  
1990-1992: National Research Council Postdoctoral Fellow, USGS, Menlo Park, CA.  
1983-1990: Teaching and Research Assistant, University of Virginia.  
1982-1983: Staff Scientist, Natural Resource Department, Collier County, FL.  
1979-1982: Assistant Staff Scientist, Mote Marine Laboratory, FL

American Society of Limnology and Oceanography, Workshop on Emerging Research Questions for Limnology, Report to the Geosciences Directorate of NSF. December 2002.

## SELECTED PUBLICATIONS

Böhlke, J. K., Harvey, J.W., and Voytek, M.A., 2004. Reach-scale isotope tracer experiment to quantify denitrification and related processes in a nitrate-rich stream, midcontinent United States. *Limnology and Oceanography*, 49: 821-838.

Harvey, J.W., Conklin, M.H., and Koelsch, R., 2003. Predicting changes in hydrologic retention in an evolving semi-arid alluvial. *Advances in Water Resources* 26:939-950.

Saiers, J.E., Harvey, J.W., and Mylon, S.E., 2003. Surface-water transport of suspended matter through wetland vegetation of the Florida Everglades. *Geophysical Research Letters* 30(19), 1987, doi:10.1029/2003GL018132.

Krest, J.M., and Harvey, J.W., 2003. Using natural distributions of short-lived radium isotopes to quantify groundwater discharge and recharge. *Limnology and Oceanography*, 48:290-298.

## PROFESSIONAL SOCIETIES

American Geophysical Union, American Society of Limnology and Oceanography

## RECENT PROFESSIONAL SERVICE

American Geophysical Union, Water Quality Committee, January 1998 -2002, Associate Editor, *Water Resources Research*, January 2001 - 2003.

- McClain, M.E., Boyer, E.W., Dent, C.L., Gergel, S.E., Grimm, N.B., Groffman, P.M., Hart, S.C., Harvey, J.W., Johnston, C.A., Mayorga, E., McDowell, W.H., Pinay, G., 2003, Biogeochemical hot spots and hot moments at the interface of terrestrial and aquatic ecosystems, *Ecosystems* 6(4):301-312. doi: 10.1007/s10021-003-0161-9.
- National Research Council, 2002, Riparian Areas: Functions and Strategies for management. National Academy Press, Washington D.C., 428 p.
- Tobias, C.R., Macko, S.A., Anderson, I.C., Canuel, E.A., and Harvey, J.W. 2001. Tracking the fate of a high concentration groundwater nitrate plume through a fringing marsh: a combined groundwater tracer and in situ isotope enrichment study. *Limnology and Oceanography* 46(8):1977-1989.
- Harvey, J.W., and B.J. Wagner, 2000, Quantifying hydrologic interactions between streams and their subsurface hyporheic zones, pp 3-43 in Jones, J.A. and P.J. Mulholland, (eds), Streams and Ground Waters, Academic Press, San Diego.
- Choi, J., and J.W. Harvey, 2000, Quantifying time-varying ground-water discharge and recharge in wetlands of the northern Florida Everglades, *Wetlands*, 20(3):500-511.
- Fuller, C.C., and J.W. Harvey, 2000, 34:1150-1155, Reactive uptake of trace metals in the hyporheic zone of a mining-contaminated stream, Pinal Creek, Arizona, *Environmental Science and Technology*, 34:1150-1155.
- Choi, J., J.W. Harvey, and M.H. Conklin, 2000, Characterizing multiple timescales of stream and storage zone interaction that affect solute fate and transport in streams, *Water Resources Research*, 36(6):1511-1518.
- Harvey, J.W., and C.C. Fuller, 1998, Effect of enhanced manganese oxidation in the hyporheic zone on basin-scale geochemical mass balance, *Water Resources Research*, 34(4):623-636.
- Choi, J., S.M. Hulseapple, M.H. Conklin, and J.W. Harvey, 1998, Modeling CO<sub>2</sub> degassing and pH in a stream-aquifer system. *Journal of Hydrology*, 209:297-310.
- Duff, J.H., F. Murphy, C.C. Fuller, F.J. Triska, J.W. Harvey, A.P. Jackman, 1998, A mini drivepoint sampler for measuring porewater solute concentrations in the hyporheic zone of sand-bottom streams. *Limnology and Oceanography*, 43(6):1378-1383.
- Wagner, B.J., and J.W. Harvey, 1997, Experimental design for estimating parameters of rate-limited mass transfer: analysis of stream tracer studies. *Water Resources Research* 33(7):1731-1741.
- Harvey, J.W., Wagner, B.J., and Bencala, K.E., 1996. Evaluating the reliability of the stream tracer approach to characterize stream-subsurface water exchange. *Water Resources Research*, 32(8), 2441-2451.
- Harvey, J.W. and W.K. Nuttle, 1995, Fluxes of water and solute in a coastal wetland sediment 2: Effect of macropores on solute exchange with surface water. *Journal of Hydrology*, 164, 109-125.
- Nuttle, W.K. and J.W. Harvey, 1995, Fluxes of water and solute in a coastal wetland sediment 1: The contribution of regional groundwater discharge. *Journal of Hydrology*, 164, 89-107.
- Harvey, J.W., R.M. Chambers, and J.R. Hoelscher, 1995, Preferential flow and segregation of porewater solutes in wetland sediment. *Estuaries*, 18(4), 568-578.
- Hoelscher, J.R., W.K. Nuttle and J.W. Harvey, 1993, A technical note on the calibration and use of pressure transducers in tensiometer systems. *Hydrological Processes*, 7, 205-211.
- Harvey, J.W., 1993, Measurement of variation in soil-solute tracer concentration across a range of effective pore sizes. *Water Resources Research*, 29(6), 1831-1837.
- Harvey, J.W. and K.E. Bencala, 1993, The effect of streambed topography on surface-subsurface water exchange in mountain catchments. *Water Resources Research*, 29(1):89-98.
- Harvey, J.W. and W.E. Odum, 1990, The influence of tidal marshes on upland groundwater discharge to estuaries. *Biogeochemistry* 10: 217-236.

## POSTDOCTORAL RESEARCHERS ADVISED

Jungyill Choi, 1998-2000,  
James M. Krest, 2000-2003,  
Durelle C. Scott, 2003-present.

## STUDENTS CO-ADVISED

PhD: Jungyill Choi (University of Arizona),  
Craig Tobias (William and Mary).  
M.S.: Scott Hulseapple (University of Arizona),  
Roger Koelsch (University of Arizona),  
Elizabeth Robbins (University of Arizona).  
B.S.: Jonah Jackson (University of Virginia),  
Kendra Loomis (Occidental College)

## GRADUATE/POSTDOCTORAL ADVISERS

George M. Hornberger/ Kenneth E. Bencala